

Operation Manual

High Intensity UV-A Lighting Fixture

LT-404FF

LT-404FG

LT-404FH

LT-404FI

LT-404F1

LT-404F2



LONG-THROW™
LIGHTING SERIES

WildFire®
LIGHTING & VISUAL EFFECTS
The Professional Choice™

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Introduction

Congratulations on your purchase of a Wildfire Long-Throw 404 UV-A Lighting Fixture. This advanced ultraviolet projector is the flagship of the Long-Throw series. Its powerful throw, quiet operation and smooth even light distribution, has made the Wildfire 400 watt flood the world's best selling UV lighting fixture. New features include state-of-the-art digital DMX control with four user selectable modes for easy integration with intelligent lighting systems. Please take a moment to read this manual thoroughly before attempting to operate this fixture. Improper set-up, use or servicing may cause damage to the fixture and/or lamp and void the unit's warranty.

Safety Statements

CAUTION – RISK OF EXPOSURE TO ULTRAVIOLET (UV) RADIATION DO NOT OPERATE WITHOUT COMPLETE LAMP ENCLOSURE IN PLACE, OR IF FILTER GLASS LENS IS DAMAGED

DANGER – INTENSE HEAT AVOID CONTACT BY PERSONS AND MATERIAL.

CAUTION – RISK OF ELECTRICAL SHOCK AND FIRE DISCONNECT FIXTURE BEFORE RELAMPING. USE WITH MAX 400W LAMP TYPE M59 (WILDFIRE IRONARC MODEL LMP-400D). DRY LOCATIONS ONLY. NOT FOR RESIDENTIAL USE.

WARNING – THIS FIXTURE CONTAINS A HIGH INTENSITY UV METAL HALIDE LAMP, WHICH IS SAFELY CONTAINED WITHIN AN INTERLOCKING HOUSING. WHEN THIS FIXTURE IS USED IN ACCORDANCE WITH THE MANUFACTURERS OPERATING INSTRUCTIONS, NO HAZARDS EXIST TO MOST PEOPLE STANDING WITHIN THE BEAM OF THE FIXTURE. HOWEVER INDIVIDUALS SUFFERING FROM A RANGE OF SUNLIGHT EXPOSURE DISORDERS, APHAKIC AND PSEUDOAPHIKIC, OR THOSE INDIVIDUALS RECEIVING PHOTSENSITIVE MEDICATION MAY RECEIVE DISCOMFORT IF EXPOSED TO ULTRAVIOLET LIGHT.

HG – THE LAMP IN THIS FIXTURE CONTAINS MERCURY. MANAGE IN ACCORDANCE WITH DISPOSAL LAWS. SEE: WWW.LAMPRECYCLE.ORG OR CALL 1-800-937-8065

Specifications

Ballast:

Magnetic
Electronic Power Factor >92%

Rating:

120VAC / 60Hz. / 5 Amps Max / 400W (Mag.)
220VAC / 50-60Hz. / 2 Amps Max / 400W (Elec.)

Optional Magnetic Ballast Electrical Configurations:

100VAC / 50Hz. (Mag.)
100VAC / 60Hz. (Mag.)
120VAC / 50Hz. (Mag.)

Electronic Ballast Features:

Flicker & Noise Free
Automatic Lamp Failure Shutdown
Automatic High Temperature Shut Down
Automatic Hot Re-strike Prevention

Circuit Protection:

7 Amp Magnetic Over-current Breaker Switch (100-120VAC)
5 Amp Magnetic Over-current Breaker Switch (220VAC)

Lamp:

Wildfire IronArc® 400-Watt Metal Halide Model LMP-400D (1000 Hr. Rated)

Beam:

90° Flood

Reflector:

Specular Hammertone Aluminum

Lens:

8" UV-A Transmission Filter Glass
8" Clear Boro Float Front Glass (Optional)

Peak Spectral Transmission:

350-365nm

Optimum Operating Temperature:

+50°F to +120°F

Weight:

35.25Lbs. / 16.00Kg. (Mag.)
23.70Lbs. / 10.80Kg.(Elec.)

Dimensions:

10.18"/25.85cm High x 10.61"/26.94cm Wide x 16.38"/44.14cm Long

Accessory Bracket:

10" / 25.4cm Bracket Assembly

Standard Equipment:

Lamp (LMP-400D)
Pipe Mounting Clamp (ACC-0026)
Safety Cable (ACC-0027)

Specifications subject to change without notice

Setup & Operation

Unpacking

Unpack the fixture and carefully inspect for any signs of physical damage. Report any damage to Wildfire or your local distributor immediately. Included with each unit should be the following items:

1. Pipe mounting clamp, designed to attach the fixture to a 1 1/2" to 2" pipe truss
2. Safety Cable, Provided to secure the fixture when mounted on a pipe truss
3. Wildfire IronArc® Lamp, Model LMP-400D

Before mounting the fixture you will need to install the lamp refer to Lamp Replacement on page 6 for correct installation.

Installation

After installing the lamp place the fixture in desired location the fixture is equipped with a yoke assembly for mounting. The yoke may be fitted with either a pipe clamp (included) for mounting on a pipe truss or a baby bail block or junior pin for mounting on a light stand.

If the fixture is mounted on a pipe truss be sure to use the included safety cable looping it through the yoke assembly and around the pipe truss this will prevent the fixture from falling and possibly causing injury in the event that the pipe clamp was not securely tightened.

To adjust the angle of the fixture loosen the knobs on either side of the unit slightly, rotate to desired angle and tighten. Care should be taken to support the front of the fixture while loosening the knobs to prevent the fixture from rotating forward and possibly causing injury.

The fixture comes standard with a 10" Bracket assembly for attaching dowsers and scrollers such as Wybron's Eclipse or Coloram Series as well as barndoors and other accessories. When using accessories with this fixture be sure to attach the safety cable provided by the accessory manufacturer to the fixtures yoke assembly.

Plug the fixture into the appropriate power source. If you are controlling the unit with a lighting control board you will need to make sure it is plugged into a non-dim circuit if the fixture is plugged into a dimmable circuit it will not operate.

Operation

To strike the fixture push the power/breaker switch to the on position after striking the lamp allow at least 2 minutes for the lamp to get to full brightness. Once the fixture has been powered up and the lamp has ignited if you shut it off you will need to wait approximately 5 minutes to allow the lamp to cool before the fixture can re-strike. On models LT-404F(F)(G)(H)(I) **DO NOT** leave the power/breaker switch in the on position during this cool down period, this will cause the fixture to continue trying to strike the lamp potentially causing damage to the ignitor.

On models LT-404F(1)(2) it's ok to leave the power/breaker switch in the on position during the cool down period as the hot re-strike prevention circuitry in the ballast will prevent the lamp from striking until it is completely cooled. Once it has cooled sufficiently it will strike automatically. These models are also equipped with automatic lamp failure protection circuitry that shuts the fixture down if the lamp should fail for any reason, preventing any damage to the fixture. In addition they are equipped with high temperature protection circuitry that shuts the fixture down if the ballast case temperature exceeds 85° C. When the fixture cools it will strike again automatically.

DMX Address Mode

Select the DMX address mode by pressing the select button until the yellow DMX Address LED is lit. The display will read the last DMX address selected. Set the desired DMX address (001 to 512) by pressing the up or down buttons. Pressing either the up or down buttons for longer than 3 seconds will cause the display to move up or down rapidly. Once the fixture receives a DMX signal with a data value of 140 or above the lamp will strike. When the data value falls to 120 or below the lamp will extinguish. If power and or DMX signal to the fixture is lost the last address selected will be retained when power and or DMX signal is regained. The DMX input/output connector pin configuration is: Common Pin 1, Data Minus Pin 2 and Data Plus Pin 3. Pins 4 and 5 are not used at this time.

To operate the fixture without DMX set the address to 702. This forces the fixture on regardless if DMX signal is present or not. This is the default address setting when the fixture ships from the factory

Lamp Timer Mode

Select this mode by pressing the select button until the red Lamp Timer LED is lit. The display will show the current hours on the lamp in the fixture. When it reaches 1000 the red LED will flash continuously to let you know it is time to change the lamp. If another mode is selected when the lamp timer is at 1000 hours or over the display will always default back to the lamp timer mode within 10 seconds until the lamp timer is reset or rolls over at 9999 hours. Pressing and holding the up & down buttons simultaneously for 5 seconds while in the lamp timer mode will reset the lamp timer. If the fixture is powered up and the lamp doesn't ignite the display will flash "O F F" while in this mode until the lamp ignites. If another mode is selected at this time the display will always default back to the Lamp Timer mode in 10 seconds until the lamp ignites. The lamp timer will retain the current hours on the lamp even when the fixture is unplugged

DMX Data Mode

To select this mode press the select button until the green DMX Data LED is lit. The display will read the data value of the DMX signal being received. When a DMX data value of 140 or greater is received the fixture will turn on. When a data value of 120 or less is received the fixture will turn off. If power is removed and DMX signal is still present the current data value being sent to the fixture will be read as soon as power is reapplied. If no DMX signal is being received or DMX signal is lost, the DMX data LED will flash, the display will read "0 0 0" and the fixture will default to off unless the DMX address is set to 702 as indicated above. If another mode is selected at this time the display will always default back to the DMX data mode in 10 seconds until the DMX signal is restored or the address is set to 702.

Dark Mode

Pressing and holding the select button for 5 seconds in any of the three modes will darken the display and LED while still retaining all information. To turn the display back on press the select button again

Maintenance & Troubleshooting

Lamp Replacement

Unplug the fixture. Remove any accessories from the front. Make sure the fixture is cool to the touch before opening the front lens assembly cover. Unhook the clasps on either side of the fixture allowing the front lens assembly cover to swing down. Grasp the lamp in the center remove it by pushing it gently to one side sliding the other end forward. Reverse this procedure to install the new lamp. After installing gently rock the new lamp back and forth to insure the depressions on the ends of the lamp are firmly seated on the posts of the sockets. If the lamp is not firmly seated arcing could occur melting both the socket and lamp. Care should be taken not to touch the new lamp directly use a cloth or glove when handling if you have touched the lamp it must be cleaned with alcohol to remove any oils and fingerprints prior to striking. For maximum UV-A output always use Wildfire IronArc™ lamps, and change the lamp in your fixture every 1000 hours.

Cleaning

For best performance, the reflector, lamp and filter lens should be kept free of dirt and dust. At no time should any cleaning chemicals or abrasives be used to clean any part of the fixture. Do not spray or apply any liquid directly to any part of the fixture. Always unplug the unit. before cleaning. For normal cleaning, a dry soft cloth should be used to wipe any surface free from dust and light dirt. Cleaning the reflector will require that the lamp be removed. Remove the lamp by following the instructions listed under lamp replacement above. Once the lamp has been removed, gently wipe off the reflector using a soft dry cloth. In the event the reflector is heavily soiled, lightly dampen the cloth with a mild window cleaning agent and wipe clean. The filter lens can be cleaned in the same manner. The lamp should be cleaned with alcohol only.

Troubleshooting

Red LED is flashing display reads 1000 to 9999: -- The lamp has reached the end of its life, reducing UV output considerably. Replace the lamp in the fixture

Red LED is on and the display is flashing “O F F”: -- The fixture is attempting to strike the lamp however the lamp has either not cooled enough to strike or the lamp is bad. Wait 5 minutes for the lamp to completely cool. If it still won't strike, replace the lamp.

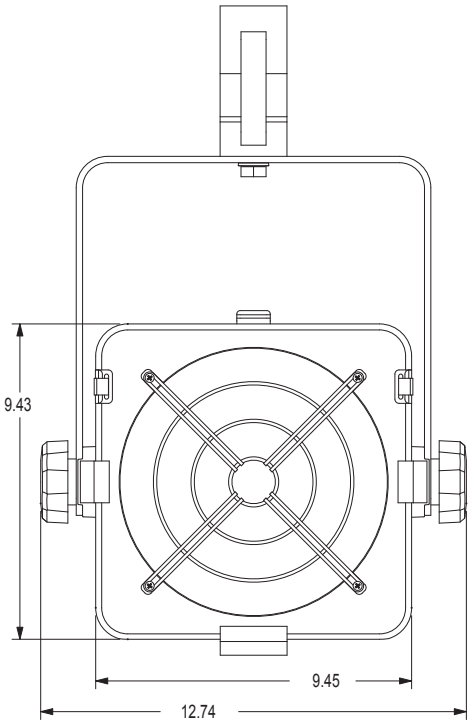
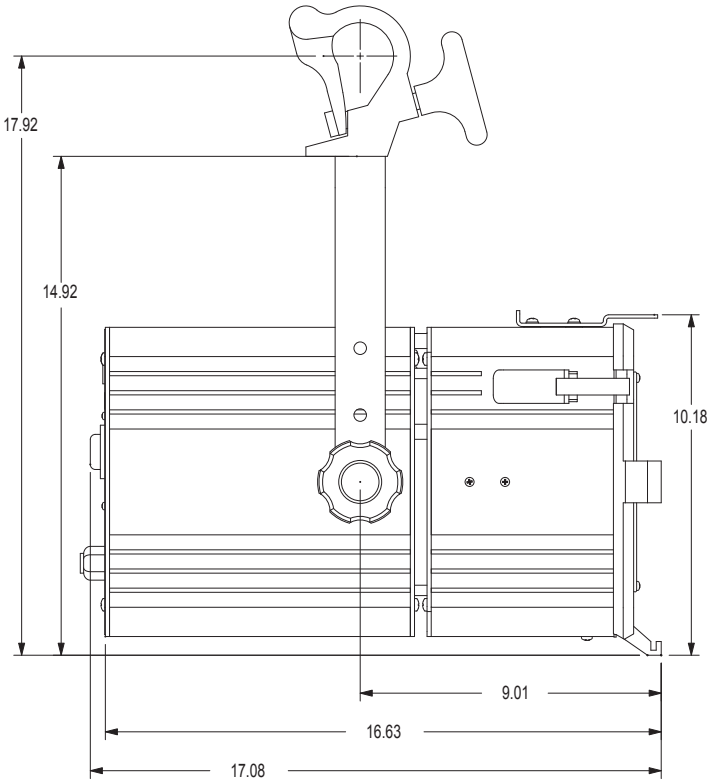
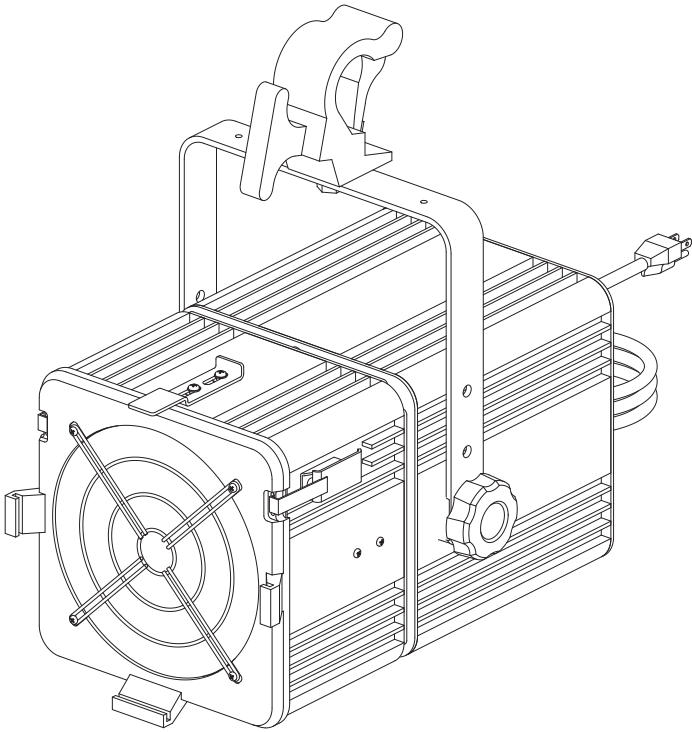
Green LED is flashing and the display reads “0 0 0”: -- The fixture is set for a valid DMX address however DMX signal is not being received. Check DMX settings on control board or software as well as cabling to the fixture.

Display and LED's are not lit: -- Fixture is operating in dark mode, press the select button to reactivate the display and LED's

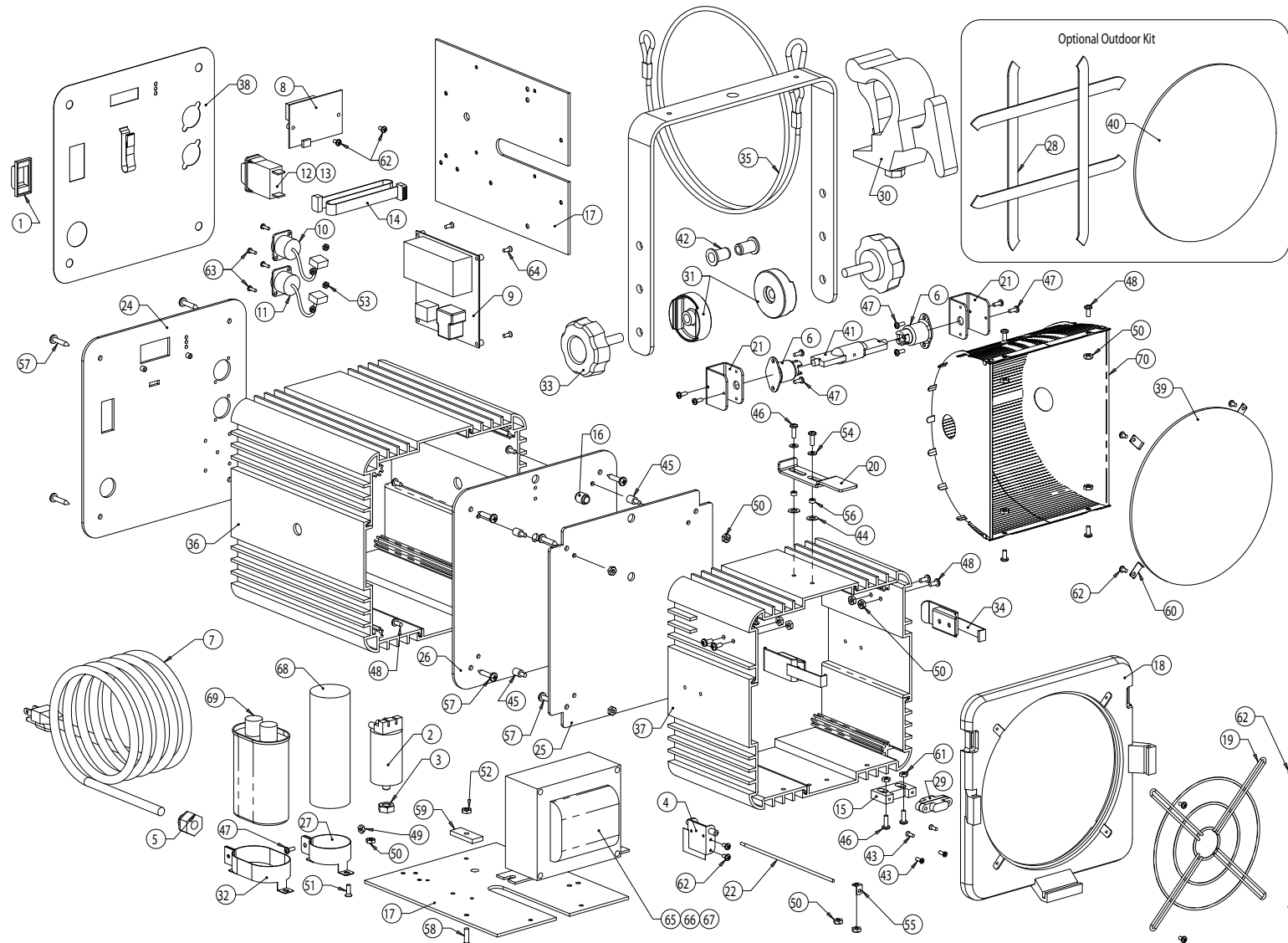
The fixture will not strike: – Check to make sure there is power to the fixture. Make sure the power/breaker switch on the back of the fixture has not been tripped. Unplug the unit. Check to see if it has a lamp installed and that it is seated properly in the sockets (see lamp replacement above). Check to see if the safety cutoff switch is making contact by closing the lens cover and listening for a clicking sound. If the fixture still is not striking try replacing the lamp. If you have checked all of the above and the fixture still won't strike contact Wildfire technical support at (310) 645-7787 or your local distributor.

The effect is not working anymore: – Try changing the lamp. The lamp in your Wildfire fixture is rated at 1000 hours. This does not necessarily mean that the lamp will “burn out” or not light after 1000 hours it may continue to burn for much longer period of time however the amount of UV it produces will be reduced considerably causing the effect to appear as though it isn't working. Wildfire recommends for maximum effect to change the lamp every 1000 hours.

Isometric & Line Views



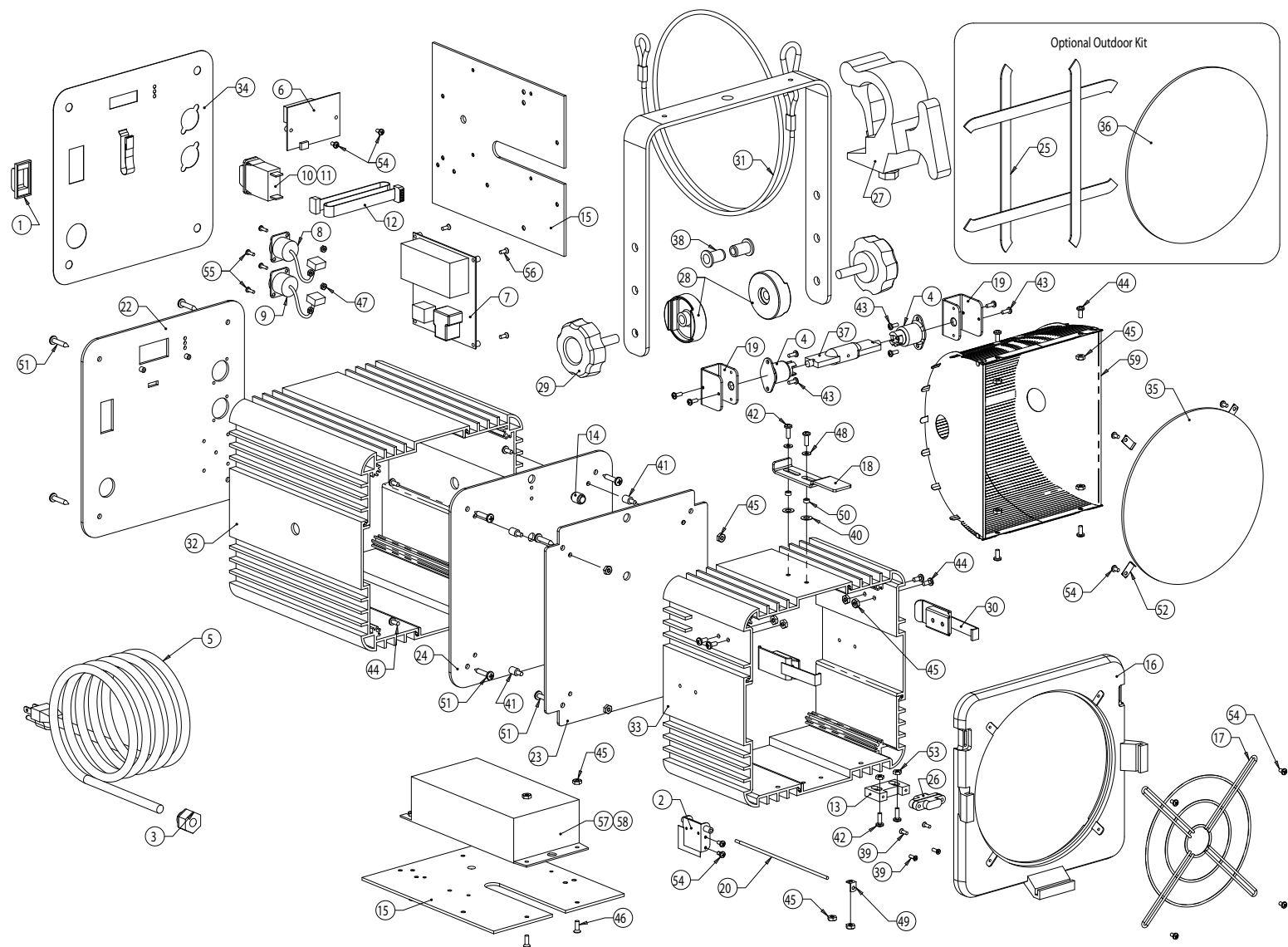
Exploded View, LT-404(F)(G)(H)(I)



Part List, LT-404F(F)(G)(H)(I)

#	QTY.	PART #	PART NAME	#	QTY.	PART #	PART NAME
1	1	ELE-0005	APM Hexseal, Breaker Switch	36	1	HSG-400B-A	Housing, Ballast
2	1	ELE-0012	Ignitor, 12 Amp	37	1	HSG-400LF-D	Housing, Lamp, 400, (F)
3	1	Included w/ Ignitor	Nut, 3/8-16	38	1	LAB-0004	Control Label, WF-404F
4	1	ELE-0016	Switch, Honeywell, 2AC59	39	1	LEN-0005	Lens, 8" Round, Mug 2
5	1	ELE-0021	Strain Relief, Power Cord	40	1	LEN-0015	Lens, 8" Round, Boro Float
6	2	ELE-0024	Socket, Lamp, B&W 976, (252)(402)(402S/F)	41	1	LMP-400D	Lamp, Wildfire, Iron Arc, UV, 400W
7	1	ELE-0038	Power Cord, 120V	42	2	MFG-0001	Nut, Blind Rivet, 3/8-16
8	1	ELE-0045	Display Module	43	4	MFG-0006	MS, FH, PHL, 5-40, .375", 18-8 SS
9	1	ELE-0046	Power Supply Module	44	2	MFG-0015	Spring, Belleville Disc
10	1	ELE-0048	Jack, DMX, Male	45	4	MFG-0022	Standoff, 5/16 OD, 8-32, M-F
11	1	ELE-0049	Jack, DMX, Female	46	4	MFG-0031	MS, PH, PHL, 8-32, .500", 18-8 SS
12	1	ELE-0051	Breaker, Switch, Carling, 7 amp, 100-120V Ballast	47	9	MFG-0034	MS, PH, PHL, 6-32, .375", 18-8 SS
13	1	ELE-0052	Breaker, Switch, Carling, 5 amp, 220V Ballast	48	12	MFG-0035	MS, PH, PHL, 8-32, .375", 18-8 SS
14	1	ELE-0064	Ribbon Cable, Display to Power	49	1	MFG-0040	Nut, 6-32, 18-8 SS, w/ Tooth Washer
15	1	FAB-0002-A	Bracket, Hinge, Soss	50	16	MFG-0041	Nut, 8-32, 18-8 SS, w/ Tooth Washer
16	2	FAB-0006-A	Bushing, Wire & Switch Routing	51	2	MFG-0043	MS, FH, PHL, 8-32, .500", 18-8 SS
17	2	FAB-0007-D	401 - 600 Component Plate	52	2	MFG-0044	Nut, 10-32, 18-8 SS, Nylok
18	1	FAB-0011-E	Lens Door, 8" Round	53	4	MFG-0048	Nut, 4-40, 18-8 SS, w/ Tooth Washer
19	1	FAB-0013-A	Safety Screen, 401	54	2	MFG-0051	Washer, 3/8 OD, 11/64 ID, .032 Thk, 18-8 SS
20	1	FAB-0016-A	Slide Lock, Accessory	55	1	MFG-0053	Bracket, Keystone
21	2	FAB-0022-A	Bracket, Socket, B&W 946, 401, (F)	56	2	MFG-0054	Standoff, 1/4 OD, 1/8 Tall, #8, Alum
22	1	FAB-0026-A	Rod, Switch, 402F	57	12	MFG-0055	SS, PH, PHL, #10, 1", 18-8 SS
23	1	FAB-0074-E	Yoke, 401 / 600	58	2	MFG-0056	MS, FH, PHL, 10-32, .750", 18-8 SS
24	1	FAB-0117-B	Rear Control Plate	59	2	MFG-0063	Washer Rectangular
25	1	FAB-0121-B	Divider Plate, Lamp, 400	60	8	MFG-0067	Clip, Lens Retaining
26	1	FAB-0122-B	Divider Plate, Ballast, 400	61	2	MFG-0076	Nut, 8-32, Hex, Small Pattern
27	1	FAB-0159-A	Bracket, Capacitor, Dry Film	62	12	MFG-0078	MS, PH, PHL, 6-32, .250", 18-8 SS
28	16	GKT-0002	Gasket, Lens Door, 401/600	63	4	MFG-0085	MS, PH, PHL, 4-40, .375", 18-8 SS
29	1	HAR-0017	Hinge, Soss, #101, Chrome	64	4	MFG-0086	MS, FH, PHL, 6-32, .375", 18-8 SS
30	1	HAR-0019	Pipe Clamp, Mega Claw	65	1	PS-MH-400G	Ballast, 400W, 100V, 200V, 60HZ
31	2	HAR-0020-A	Spacer, Casting, Yoke	66	1	PS-MH-400F	Ballast, 400W, 100V, 200V, 50HZ
32	1	HAR-0023	Bracket, Capacitor, Oil	67	1	PS-MH-400IK	Ballast, 400W, 120V, 208V, 240V, 277V, 60HZ
33	2	HAR-0050	Knob, Yoke Adjustment	68	1	Included w/Ballast	Capacitor, Dry Film
34	2	HAR-0076	Latch, Draw	69	1	Included w/Ballast	Capacitor, Oil
35	1	HAR-2000	Cable, Safety, 1/8"	70	1	RFL-004	Reflector Assy. WF-402F

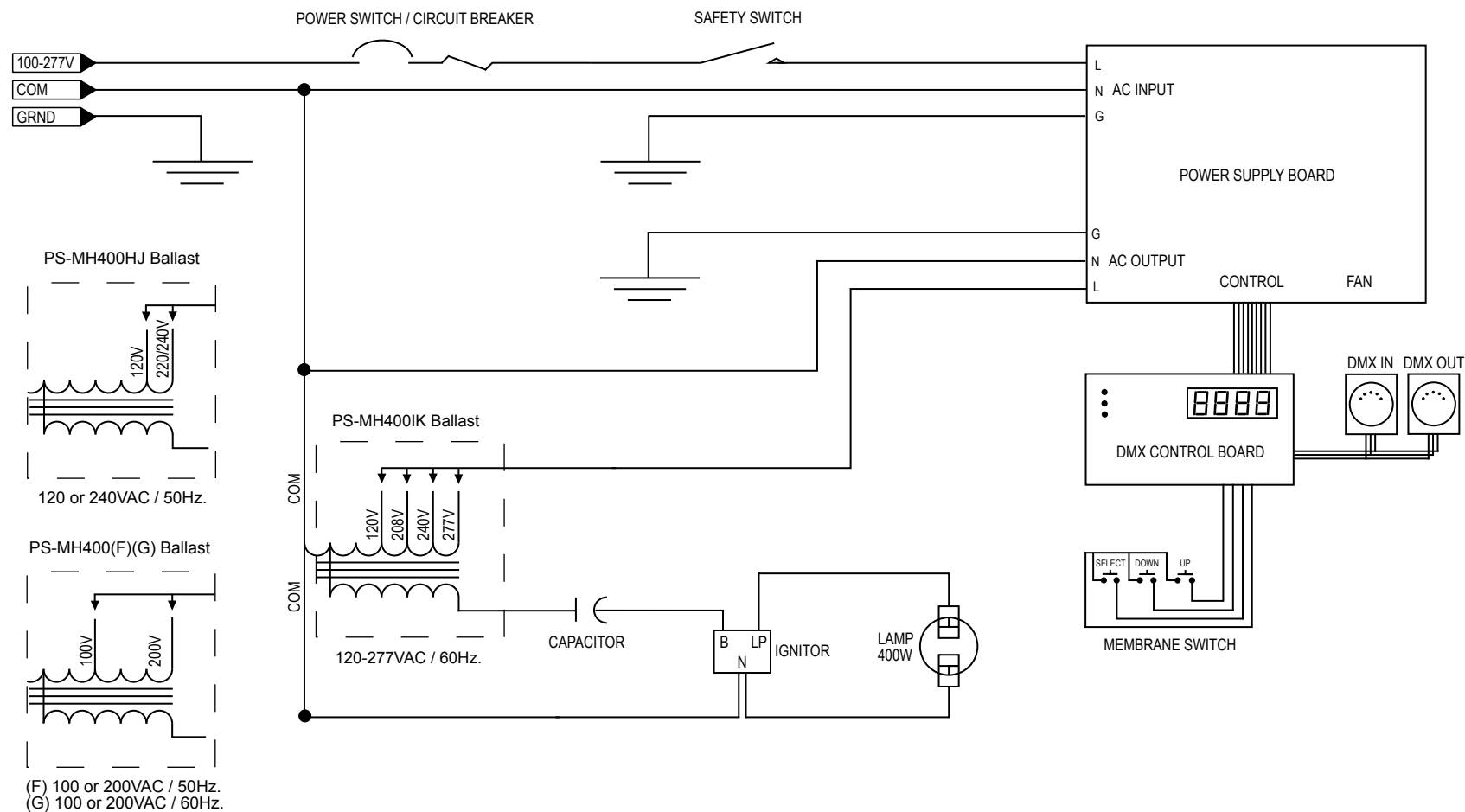
Exploded View, LT-404F(1)(2)



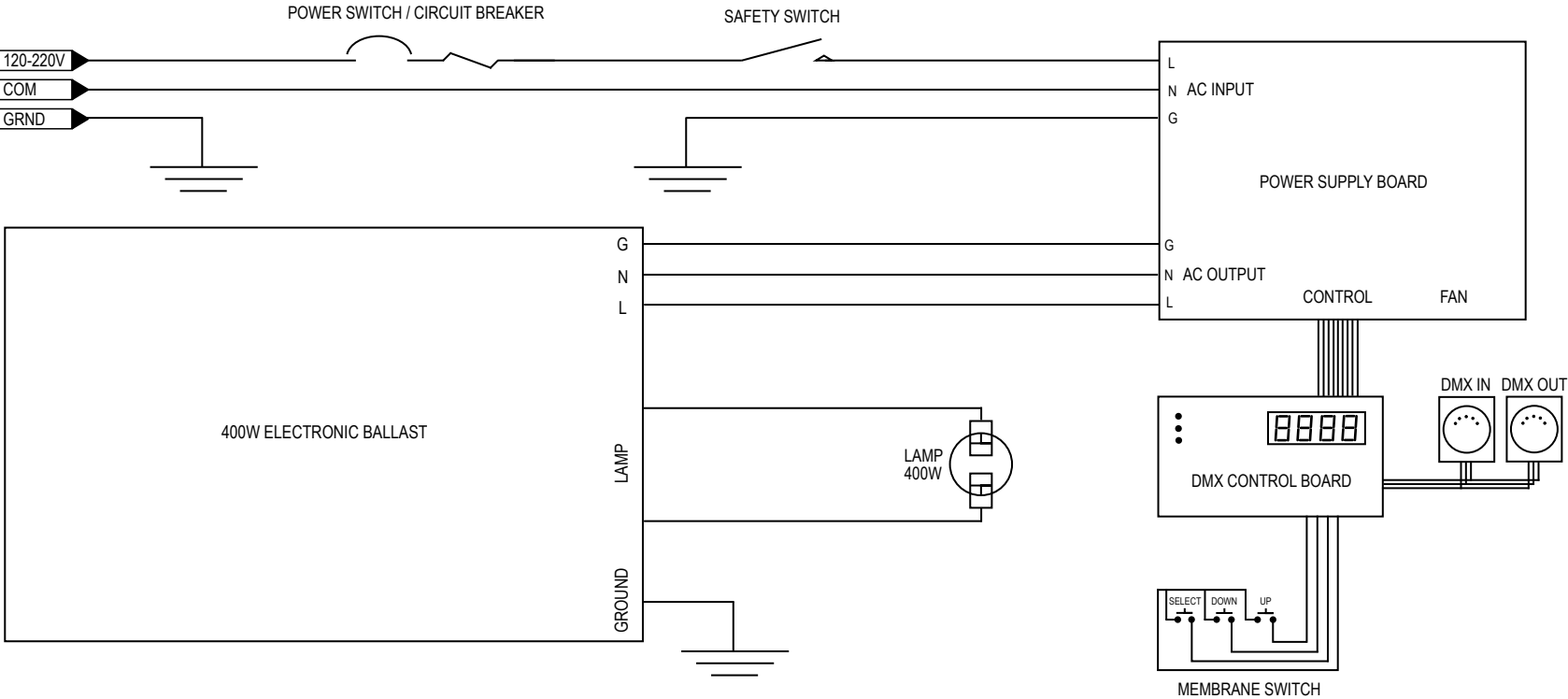
Part List, LT-404F(1)(2)

#	QTY	PART	PART NAME	#	QTY	PART #	PART NAME
1	1	ELE-0005	APM Hexseal, Breaker Switch	31	1	HAR-2000	Cable, Safety, 1/8"
2	1	ELE-0016	Switch, Honeywell, 2AC59	32	1	HSG-400B-A	Housing, Ballast
3	1	ELE-0021	Strain Relief, Power Cord	33	1	HSG-400LF-D	Housing, Lamp, 400, (F)
4	2	ELE-0024	Socket, Lamp, B&W 976, (252)(402)(402S/F)	34	1	LAB-0004	Control Label, WF-404F
5	1	ELE-0038	Power Cord, 120V	35	1	LEN-0005	Lens, 8" Round, Mug 2
6	1	ELE-0045	Display Module	36	1	LEN-0015	Lens, 8" Round, Boro Float
7	1	ELE-0046	Power Supply Module	37	1	LMP-400D	Lamp, Wildfire, Iron Arc, UV, 400W
8	1	ELE-0048	Jack, DMX, Male	38	2	MFG-0001	Nut, Blind Rivet, 3/8-16
9	1	ELE-0049	Jack, DMX, Female	39	4	MFG-0006	MS, FH, PHL, 5-40, .375", 18-8 SS
10	1	ELE-0051	Breaker, Switch, Carling, 7 amp, 100-120V Ballast	40	2	MFG-0015	Spring, Belleville Disc
11	1	ELE-0052	Breaker, Switch, Carling, 5 amp, 220V Ballast	41	4	MFG-0022	Standoff, 5/16 OD, 8-32, M-F
12	1	ELE-0064	Ribbon Cable, Display to Power	42	4	MFG-0031	MS, PH, PHL, 8-32, .500", 18-8 SS
13	1	FAB-0002-A	Bracket, Hinge, Soss	43	8	MFG-0034	MS, PH, PHL, 6-32, .375", 18-8 SS
14	2	FAB-0006-A	Bushing, Wire & Switch Routing	44	12	MFG-0035	MS, PH, PHL, 8-32, .375", 18-8 SS
15	2	FAB-0007-D	401 - 600 Component Plate	45	18	MFG-0041	Nut, 8-32, 18-8 SS, w/ Tooth Washer
16	1	FAB-0011-E	Lens Door, 8" Round	46	4	MFG-0043	MS, FH, PHL, 8-32, .500", 18-8
17	1	FAB-0013-A	Safety Screen, 401	47	4	MFG-0048	Nut, 4-40, 18-8 SS, w/ Tooth Washer
18	1	FAB-0016-A	Slide Lock, Accessory	48	2	MFG-0051	Washer, 3/8 OD, 11/64 ID, .032 Thk, 18-8 SS
19	2	FAB-0022-A	Bracket, Socket, B&W 946, 401, (F)	49	1	MFG-0053	Bracket, Keystone
20	1	FAB-0026-A	Rod, Switch, 402F	50	2	MFG-0054	Standoff, 1/4 OD, 1/8 Tall, #8, Alum
21	1	FAB-0074-E	Yoke, 401 / 600	51	12	MFG-0055	SS, PH, PHL, #10, 1", 18-8 SS
22	1	FAB-0117-B	Rear Control Plate	52	8	MFG-0067	Clip, Lens Retaining
23	1	FAB-0121-B	Divider Plate, Lamp, 400	53	2	MFG-0076	Nut, 8-32, Hex, Small Pattern
24	1	FAB-0122-B	Divider Plate, Ballast, 400	54	12	MFG-0078	MS, PH, PHL, 6-32, .250", 18-8
25	16	GKT-0002	Gasket, Lens Door, 401/600	55	4	MFG-0085	MS, PH, PHL, 4-40, .375", 18-8 SS
26	1	HAR-0017	Hinge, Soss, #101, Chrome	56	4	MFG-0086	MS, FH, PHL, 6-32, .375", 18-8 SS
27	1	HAR-0019	Pipe Clamp, Mega Claw	57	1	PS-MH-400L1	Ballast, Electronic, 120V, 50-60HZ, 400W
28	2	HAR-0020-A	Spacer, Casting, Yoke	58	1	PS-MH-400L2	Ballast, Electronic, 220V, 50-60HZ, 400W
29	2	HAR-0050	Knob, Yoke Adjustment	59	1	RFL-004	Reflector Assy. WF-402F
30	2	HAR-0076	Latch, Draw				

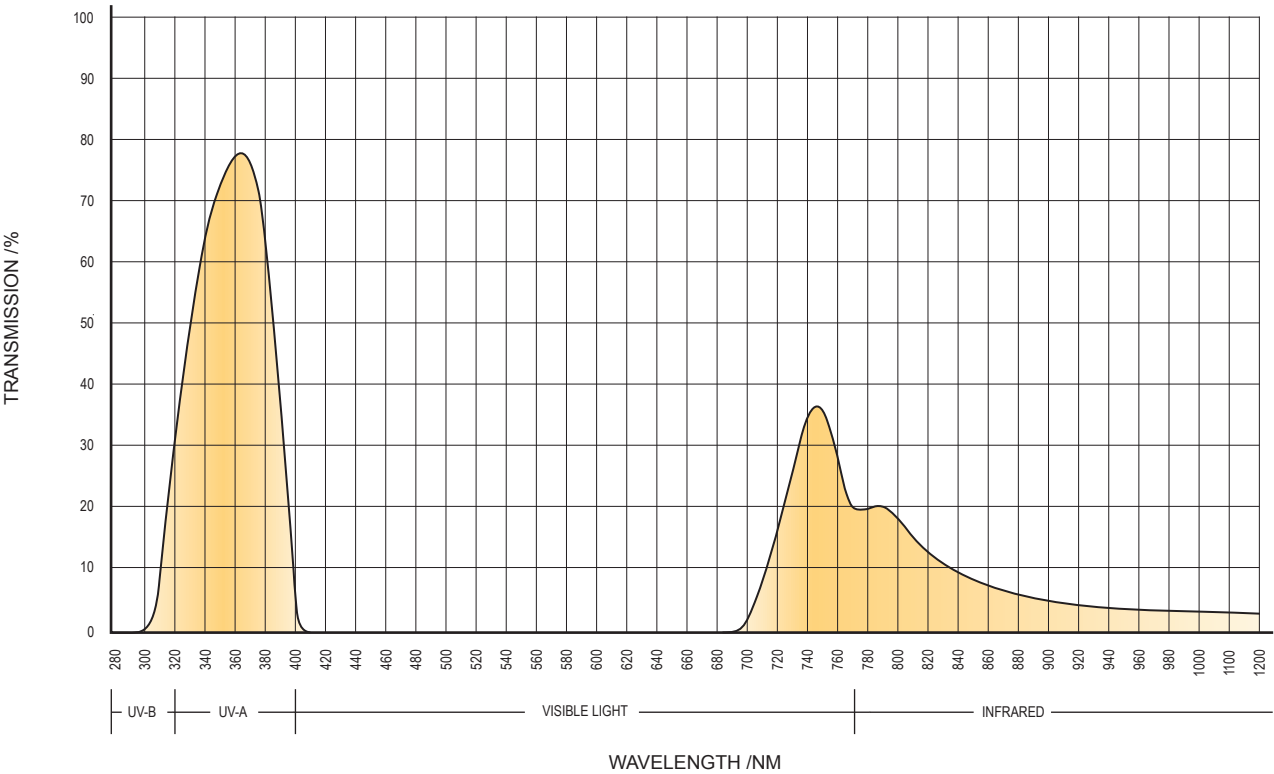
Schematic, LT-404F(F)(G)(H)(I)



Schematic, LT-404F(1)(2)



Spectral Transmission Graph



Photometrics Chart

	90° Flood										
	Distance in Feet /Meters										
	10 /3.05	20 /6.10	30 /9.14	40 /12.19	50 /15.24	60 /18.29	70 /21.33	80 /24.38	90 /27.43	100 /30.48	110 /33.53
Beam Diameter Feet	20	40	60	80	100	120	140	160	180	200	220
Beam Diameter Meters	6.10	12.19	18.29	24.38	30.48	36.57	42.67	48.77	54.86	60.96	67.05
Peak UV-A Intensity $\mu\text{W}/\text{cm}^2$	275	72.8	33.1	18.5	11.9	8.4	6.1	4.4	3.7	3	2.3



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